

Supplemental Materials

Table 1 the percentiles of slope distributions for each archetype over the 11,817 patient eyes in the method development cohort. AT = archetype.

AT\Percentile	0%	2.50%	5%	25%	50%	75%	95%	97.50%	100%
AT 1	-0.158	-0.07	-0.057	-0.022	-0.004	0.004	0.031	0.042	0.152
AT 2	-0.114	-0.033	-0.023	-0.006	0	0.005	0.023	0.032	0.151
AT 3	-0.152	-0.034	-0.024	-0.006	0	0.005	0.021	0.029	0.137
AT 4	-0.142	-0.017	-0.012	-0.003	0	0.002	0.011	0.016	0.104
AT 5	-0.115	-0.024	-0.016	-0.003	0	0.003	0.015	0.022	0.093
AT 6	-0.088	-0.008	-0.004	0	0	0.001	0.019	0.032	0.162
AT 7	-0.095	-0.011	-0.008	-0.001	0	0.002	0.012	0.019	0.121
AT 8	-0.103	-0.014	-0.008	-0.001	0	0.003	0.021	0.034	0.128
AT 9	-0.065	-0.014	-0.01	-0.002	0	0.003	0.011	0.016	0.078
AT 10	-0.1	-0.016	-0.011	-0.003	0	0.003	0.013	0.018	0.144
AT 11	-0.108	-0.014	-0.009	-0.002	0	0.002	0.012	0.018	0.113
AT 12	-0.074	-0.009	-0.006	-0.001	0	0.002	0.008	0.012	0.107
AT 13	-0.073	-0.008	-0.005	0	0	0.001	0.01	0.018	0.131
AT 14	-0.111	-0.015	-0.007	-0.001	0	0.001	0.01	0.021	0.127
AT 15	-0.056	-0.009	-0.006	-0.001	0	0.001	0.009	0.016	0.181
AT 16	-0.098	-0.008	-0.005	-0.001	0	0.001	0.008	0.014	0.119

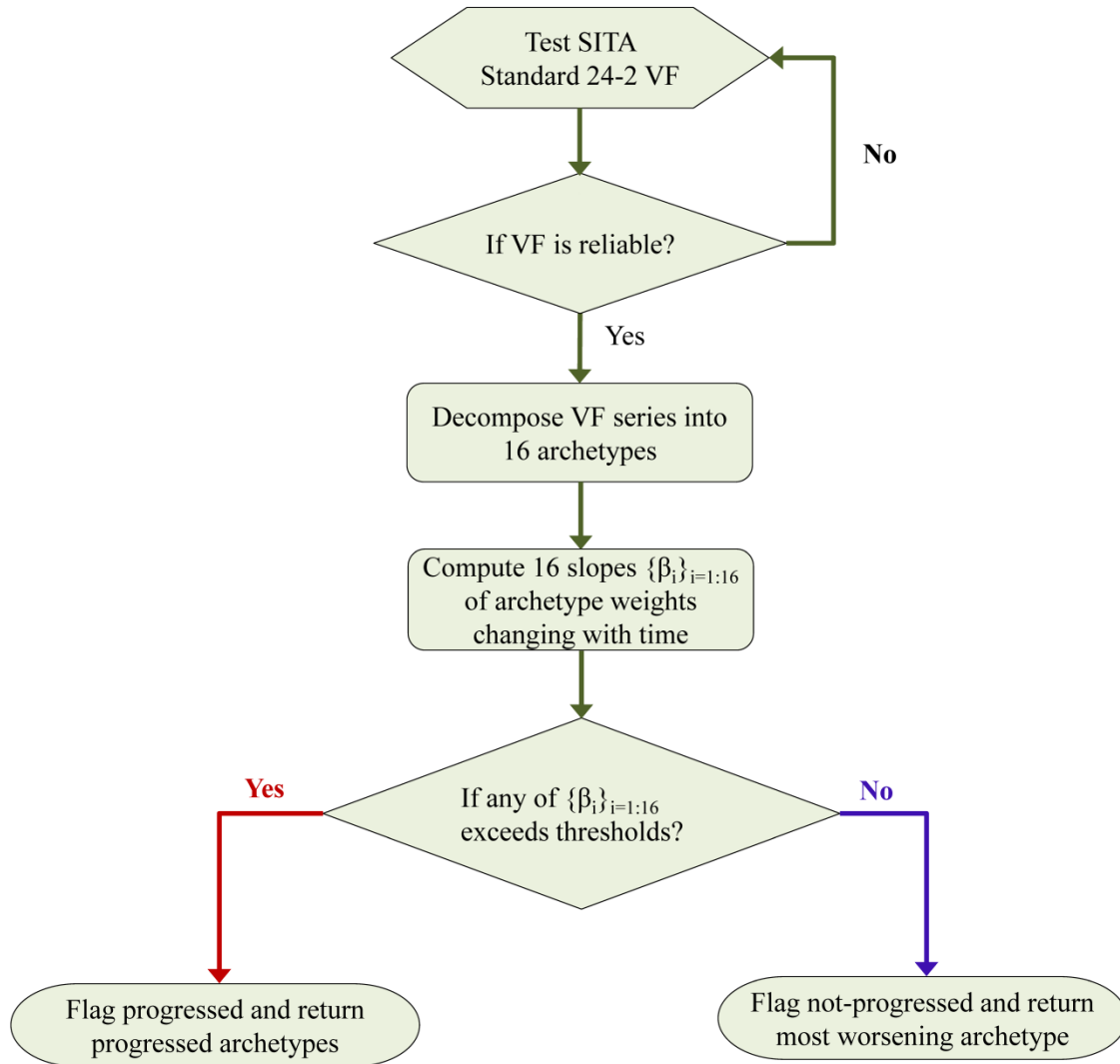
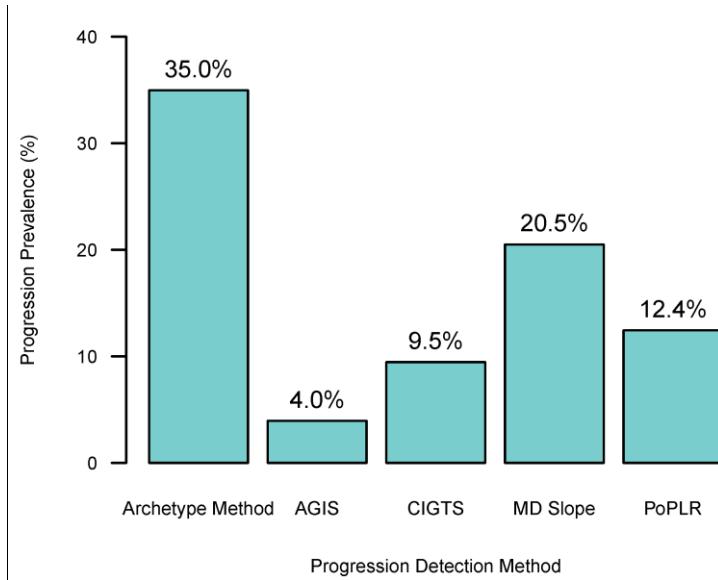
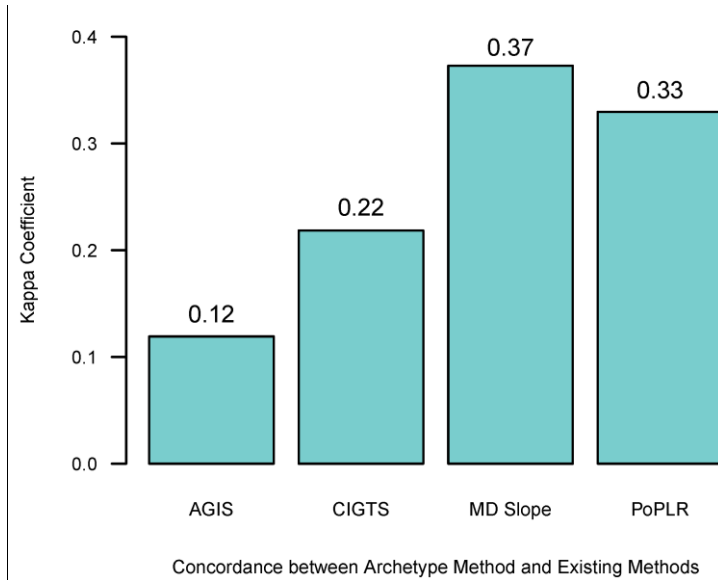


Figure 1 The flowchart of the archetype method for progression detection. The 16 slopes $\{\beta_i\}_{i=1:16}$ were calculated by linear regressions from follow-up time to the AT coefficients. The threshold for the AT slopes was determined as the average of the absolute value of the 2.5% and 97.5% percentiles over the slope distributions of all eyes in the method development cohort. AT = archetype.



(a)



(b)

Figure 2 (a) The progression prevalence detected by the archetype method in comparison to the methods of AGIS, CIGTS, MD slope and PoPLR, and (b) the concordances between the archetype method and the methods of AGIS, CIGTS, MD slope and PoPLR.

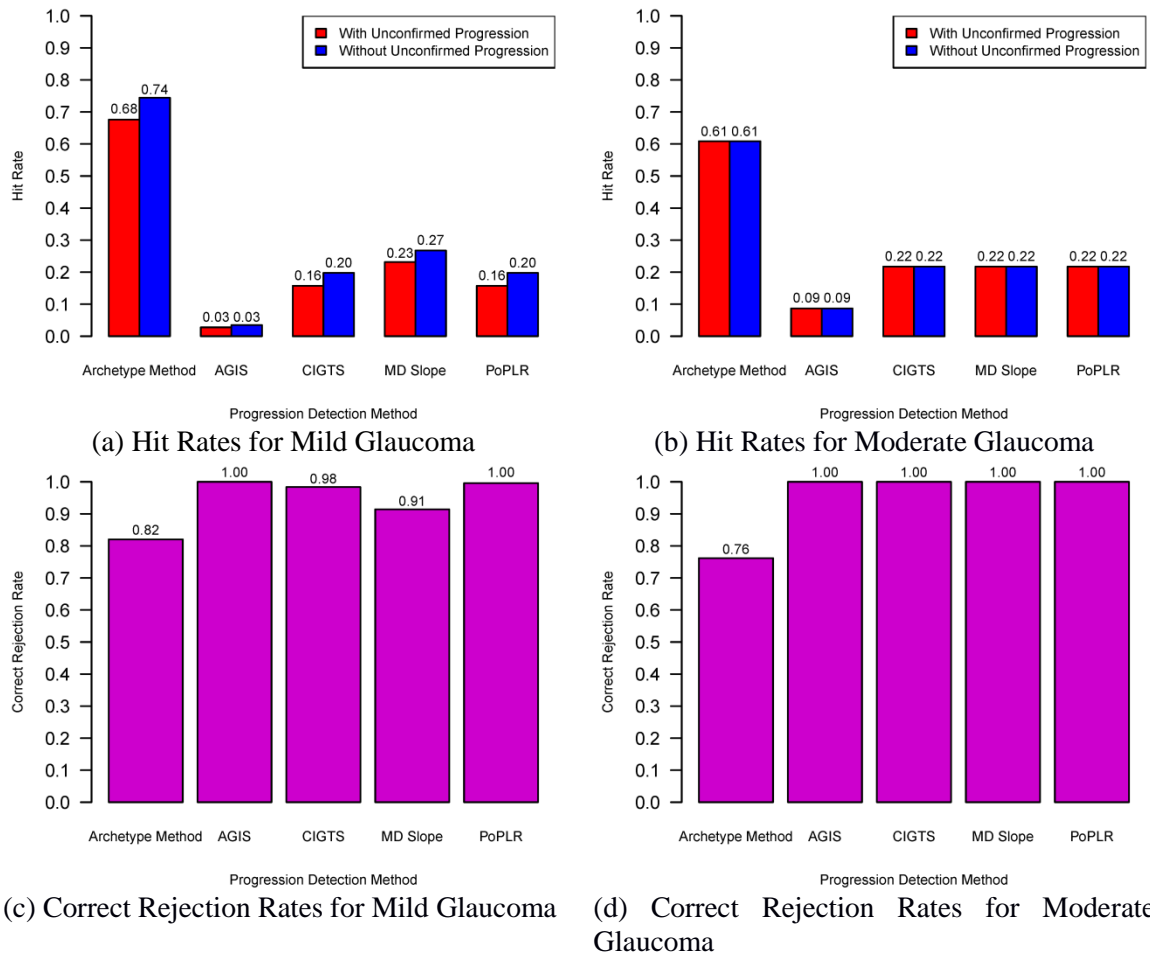
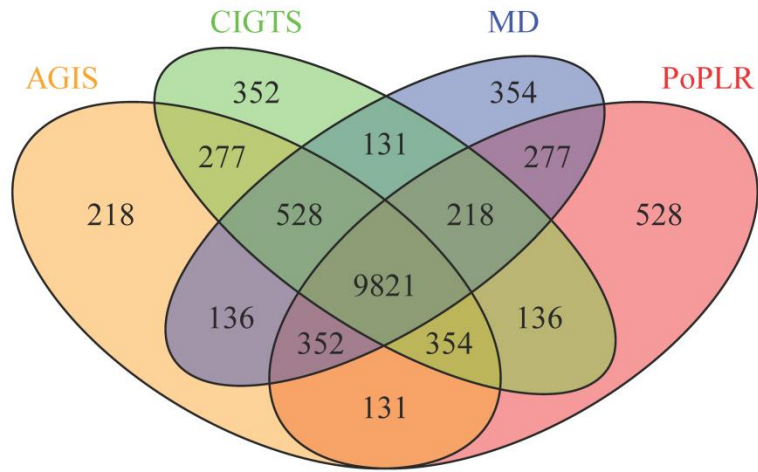
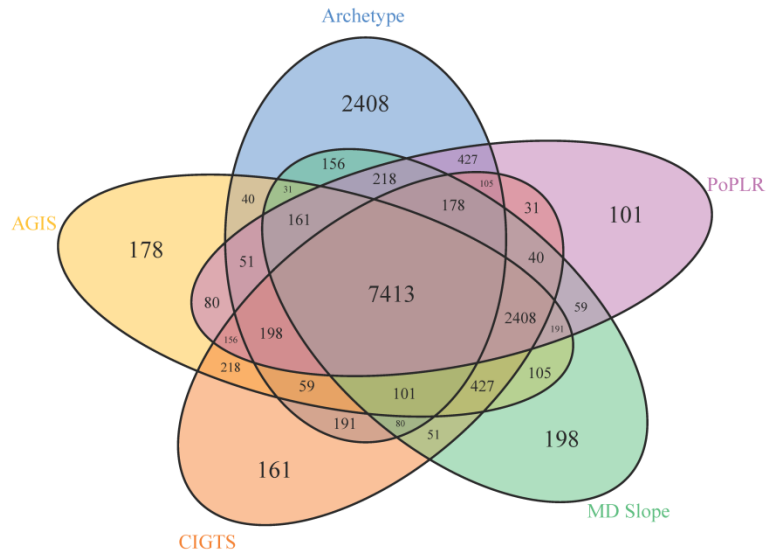


Figure 3 (a) The hit rates and (c) correct rejection rates for mild glaucoma ($MD \geq -6$ dB), and (b) the hit rates and (c) correct rejection rates for moderate glaucoma ($-12 \text{ dB} \leq MD < -6$ dB).



(a)



(b)

Figure 4 (a) Venn diagram of the four existing progression detection for 11,817 patients, and (b) Venn diagram of the archetype method and other four existing methods for progression detection for 11,817 patients.